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Corrigendum to „Optimization of the depth resolution for deuterium depth profiling up to large depths" [Nuclear Instruments and Methods in Physics Research B 387 (2016) 103–114]

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The depth resolution shown in Figs. 10 – 12 was calculated with a developer version of SIMNRA. Unfortunately this version contained a bug, resulting in incorrect effective stopping powers and depth resolutions. This bug was not present in SIMNRA version prior to 6.30 and was corrected in the released version of SIMNRA 7.

Corrected figures 10 – 12 are shown below. The depth resolution changed by a factor up to four as compared to the original publication.

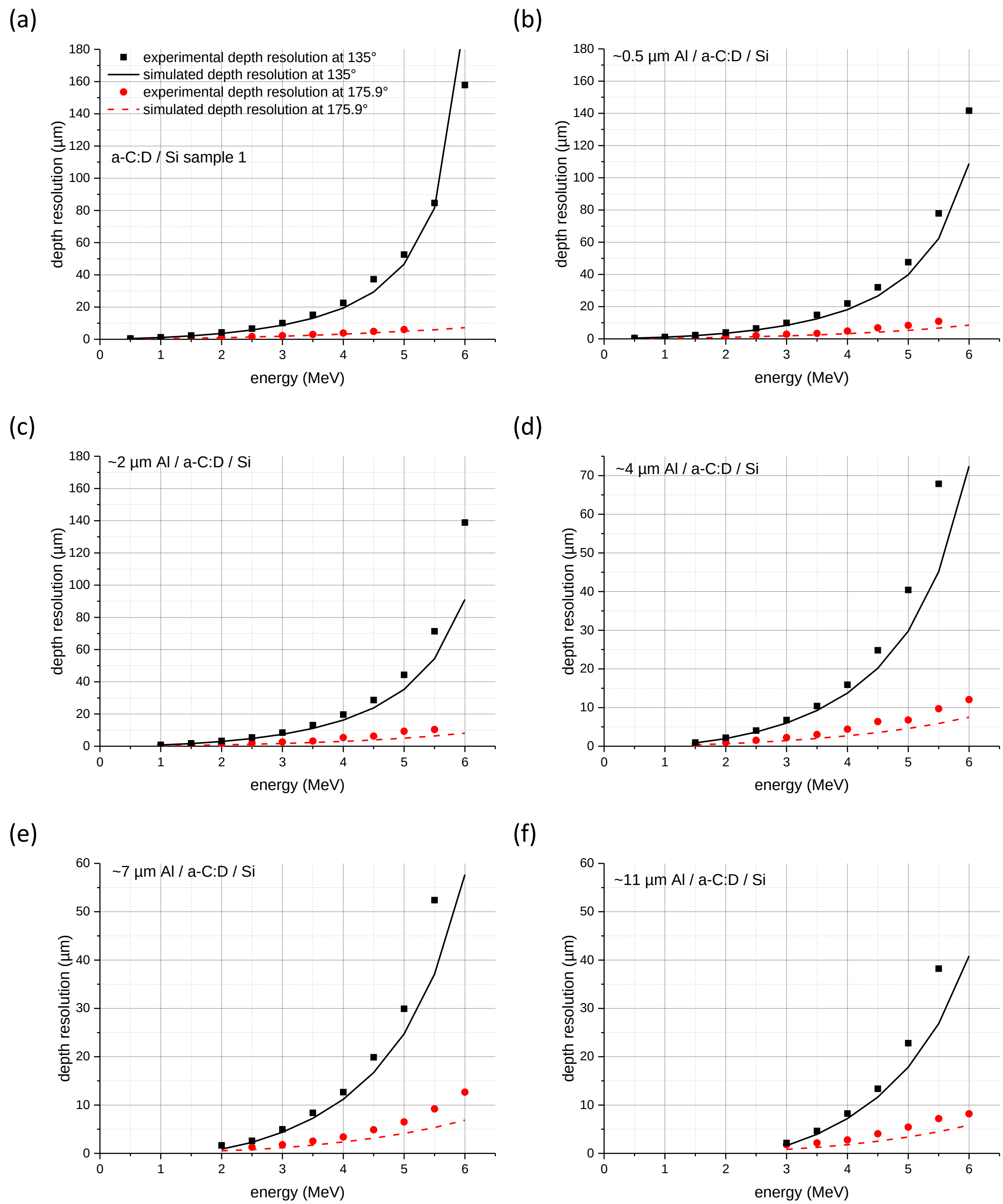

Fig. 10. Depth resolution in µm versus incident ^{3}He energy for D in a-C:D for different thicknesses of the aluminum cover layer. The dots are measured data. The lines are simulated data. The data from the annular detector at 175.9° are in red. The data from the detector at 135° are in black color in the figures. The depth resolution of the a-C:D/Si sample (Fig. 10a) is calculated with the effective stopping power of an infinitesimally thin aluminum cover layer. Please note the different axis scales in the different figures. In all above figures one can see that the better, i.e., lower, depth resolution is achieved with the detector at 175.9°. For thick aluminum layers (Fig. 10d–f) the experimental determination of the depth resolution at 6 MeV incident energy was impossible for the 135° detector due to a high background. Comparing the

depth resolution at high energies between experimental points an improvement up to a factor of 18 is reached.

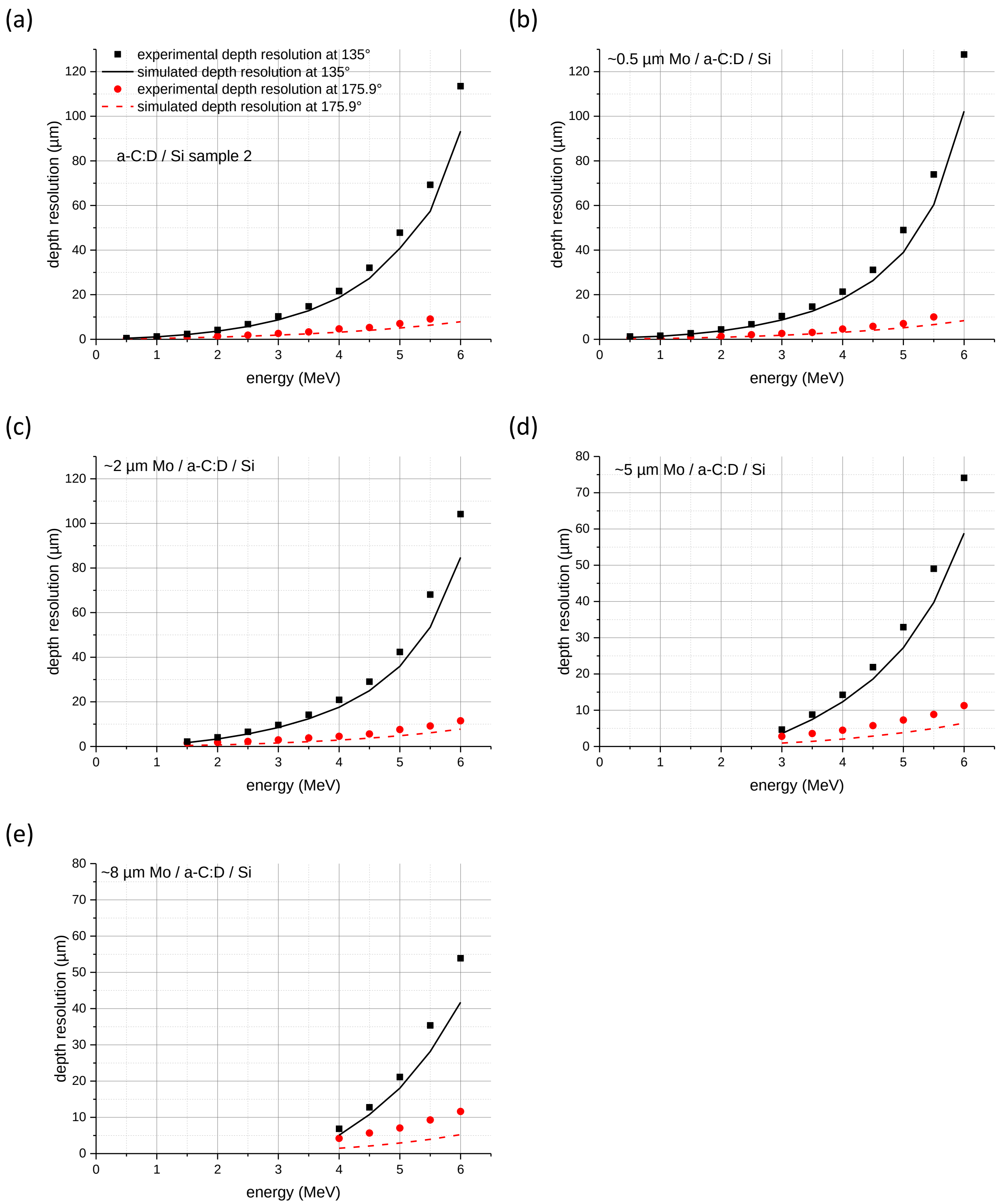

Fig. 11. Depth resolution in µm versus incident ^{3}He energy for D in a-C:D for different thicknesses of the molybdenum cover layer. The dots are measured data. The lines are simulated data. The data from the annular detector at 175.9° are in red. The data from the detector at 135° are in black color in the figures. The depth resolution of the a-C:D/Si sample (Fig. 11a) is calculated with the effective stopping power of an infinitesimally thin molybdenum cover layer. Please note the different axis scales in the figures. In all above figures one can see that the better, i.e., lower, depth resolution is achieved with the detector at 175.9°. Comparing the depth resolution at high energies between experimental points an improvement up to a factor of 13 is reached.

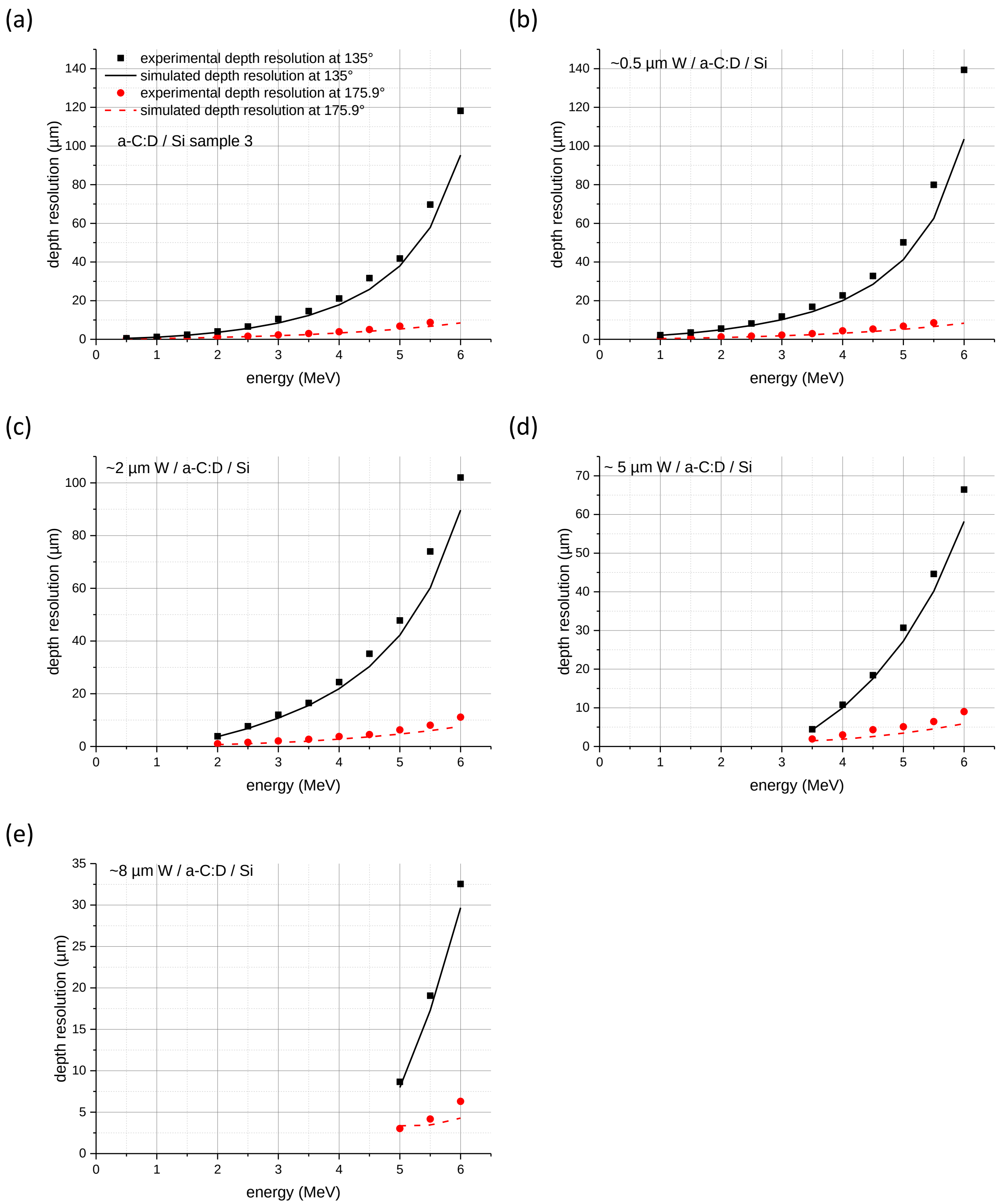

Fig. 12. Depth resolution in µm versus incident ^{3}He energy for D in a-C:D for different thicknesses of the tungsten cover layer. The dots are measured data. The lines are simulated data. The data from the annular detector at 175.9° are in red. The data from the detector at 135° are in black color in the figures. The depth resolution of the a-C:D/Si sample (Fig. 12a) is calculated with the effective stopping power of an infinitesimally thin tungsten cover layer. Please note the different axis scales in the figures. In all above figures one can see that the better, i.e., lower, depth resolution is achieved with the detector at 175.9°. Comparing the depth resolution at high energies between experimental points an improvement up to a factor of 14 is reached.